UNION CARBIDE CORPORATION

SISTERSVILLE, WV

MEMO TO: D. G. Moshier

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Subject: Buried Waste Site II (North of Plant Proper)

The purpose of this memorandum is to attempt to summarize all of the information I have collected to date regarding the identity and quantity of silicone and chlorosilane wastes buried in this area of the Sistersville property.

To properly understand the present situation a certain amount of plant history is pertinent.

The plant was originally built with coal fired boilers which were converted to oil in 1974-1975. A single sewer system collected cooling water and acid process waste streams and delivered these to lime ponds in the present EP area. Sewage treatment consisted of passing waste water through these ponds, over hauled-in limestone. Chlorosilane wastes were discharged to these ponds or dumped in holes in the cinder piles. As ponds filled with sludge they were drained and dug out, with the waste piled on the flats in the area. Drums full of intractable materials accumulated on the flats, finally to be buried in trenches about 8 - 10 feet deep.

For about ten years burnable materials were often dumped over a bank and burned in the open. An open pit incinerator followed for five years, and pumpable solvents were burned through a huge burner blasting across Sugar Camp Run, with smoke and fumes escaping to the atmosphere.

In the early 1970's the Sewer Separation Project, the No. 1 Landfill, the UNOX installation and the Kiln Project put an end to these activities - although about 3000 drums of waste materials accumulated in the area where the Coupling Agent facility now stands. These drums were shipped to Chem-Dyne for disposal in 1975-1976.

To complicate the situation, all wastes have not been allowed to rest in peace. When the No. 1 Landfill was constructed, clay for the impermeable lining was obtained from the hillside east of the buried waste area, and subsequently this area was backfilled with sludge from the lime ponds and other wastes in the area where the UNOX units now exist.

No UNOX sludge wastes are buried in this area. These went to No. 1 Landfill after going through No. 1, 2 or 3 sludge basins.

With allowances for material burned in the OPI, on the bank or in the open flame burners, it is reasonable to conclude that in the area of the Sistersville Plant site there are buried about 7000 drums of material which originally contained up to 3,500,000 pounds of silicones or chlorosilanes. Probably 1,000,000 of this was crosslinked gum and another 500,000 pounds was gelled methyl silicone, both of which are essentially solid, non-reactive, non-migrating materials. Another 1,000,000 would have been originally chlorosilanes, still pot heavies, undesirable by-products, etc. which could be expected to hydrolyze to HCl and insoluble silicones; 750,000 pounds would have been cyanoethyltriethoxy silane heavies, and A-1100 heavies with up to 250,000 pounds of PCB's used as chosen during A-1100 distillation. The other 250,000 pounds comprised some toluene solutions, filter cakes of surfactant production campaigns, and a myriad of miscellaneous wastes from the Pilot Plant.

To the best of my knowledge, aside from the PCB's, some toluene, acrylonitrile, and some methacrylate polymers, very few toxics are present in the buried waste area. I also feel that chlorosilanes, as such, have long since hydrolyzed to essentially inert and insoluble silicone species and the HCl has either percolated to Sugar Camp Run or been neutralized by the copious quantities of lime in the area or by the soil itself.

Our test monitoring wells installed in the vicinity in December 1979 should enlighten us on these points.

CF Schubert

CFSchubert/k